

L Number	Hits	Search Text	DB	Time stamp
1	3678	430/270.1.ccls.	USPAT; US-PGPUB	2004/01/31 18:44
2	30507	lactonc	USPAT; US-PGPUB	2004/01/31 18:45
3	561	430/270.1.ccls. and lactone	USPAT; US-PGPUB	2004/01/31 18:44
4	2875	430/270.1.ccls.	USPAT	2004/01/31 18:44
5	25551	lactone	USPAT	2004/01/31 18:45
6	313	430/270.1.ccls. and lactone	USPAT	2004/01/31 18:47
7	57	(lactone or lactonyl) adj (acrylate or methacrylate)	USPAT	2004/01/31 18:47
8	13	430/270.1.ccls. and ((lactone or lactonyl) adj (acrylate or methacrylate))	USPAT	2004/01/31 19:22
9	7008	gamma adj butyrolactone	USPAT	2004/01/31 19:23
10	380	430/270.1.ccls. and (gamma adj butyrolactone)	USPAT	2004/01/31 19:23
11	380	430/270.1.ccls. and (gamma adj butyrolactone)	USPAT	2004/01/31 19:31
12	4229	solvent same (gamma adj butyrolactone)	USPAT	2004/01/31 19:31
13	57	(430/270.1.ccls. and (gamma adj butyrolactone)) not (solvent same (gamma adj butyrolactone))	USPAT	2004/01/31 19:31

(FILE 'HOME' ENTERED AT 20:34:27 ON 31 JAN 2004)

FILE 'REGISTRY' ENTERED AT 20:36:12 ON 31 JAN 2004

L1 SCREEN 970 AND 2067  
L2 STRUCTURE UPLOADED  
L3 QUE L2 AND L1  
L4 173 S L3 FULL  
L5 7045 S ADAMANTYL OR ADAMANTANE  
L6 12 S L4 AND L5

=> s 16 and 3/nc

654148 3/NC

L7 9 L6 AND 3/NC

L8 ANSWER 5 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:747251 CAPLUS  
 DN 135:296190  
 TI Chemically amplified positive resist composition  
 IN Uetani, Yasunori; Yamada, Airi; Miya, Yoshiko; Takata, Yoshiyuki  
 PA Sumitomo Chemical Company, Limited, Japan  
 SO Eur. Pat. Appl., 18 pp.  
 CODEN: EPXXDW

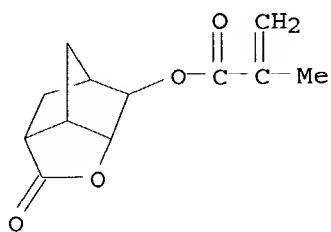
DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1143299	A1	20011010	EP 2001-107747	20010402
	EP 1143299	B1	20030716		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1316675	A	20011010	CN 2001-110230	20010402
	TW 507116	B	20021021	TW 2001-90107875	20010402
	US 2001044070	A1	20011122	US 2001-824227	20010403
	US 6579659	B2	20030617		
	JP 2002296783	A2	20021009	JP 2001-104302	20010403
	SG 94799	A1	20030318	SG 2001-1989	20010403
PRAI	JP 2000-101868	A	20000404		
	JP 2000-133328	A	20000502		
	JP 2000-209505	A	20000711		
	JP 2001-14261	A	20010123		
AB	A chem. amplification type pos. resist compn. comprises an acid generating agent and a resin having polymeric units (A), (B) and (C). The polymeric unit (A) is an alicyclic lactone selected from polymeric units I and II (R <sub>1,2</sub> = H, Me; and n = 1-3). The polymeric unit (B) is selected 3-hydroxy-1-adamantyl (meth)acrylate represented by III, IV (R <sub>3</sub> = H, methyl; R <sub>4</sub> = H, hydroxyl; R <sub>5,6</sub> = H, C <sub>1-3</sub> alkyl or hydroxyalkyl, etc.) and a unit derived from unsatd. dicarboxylic acid anhydride selected from maleic anhydride and itaconic anhydride and a polymeric unit of (.alpha.) .beta.-(meth)acryloyloxy-.gamma. -butyrolactone represented by V (R <sub>7</sub> = H, Me). The polymeric unit (C) is the one which becomes alkali-sol. by cleavage of a part of groups by the action of an acid. The pos. resist compn. of this invention is excellent in balance of properties such as resoln., profile, sensitivity, dry etching resistance, adhesion, and the like.				
IT	364736-24-3P 364736-25-4P RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (chem. amplified pos. resist compn. contg.)				
RN	364736-24-3 CAPLUS				
CN	2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1 <sup>3,7</sup> ]dec-2-yl ester, polymer with hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)				

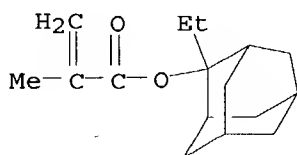
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CRN 254900-07-7  
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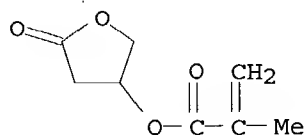
CM 2

CRN 209982-56-9  
CMF C16 H24 O2



CM 3

CRN 130224-95-2  
CMF C8 H10 O4

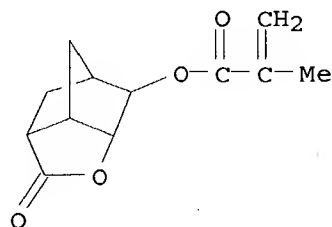


RN 364736-25-4 CAPLUS

CN 2-Propenoic acid, 2-methyl-, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

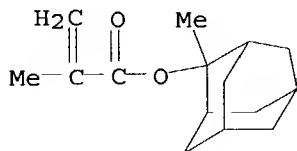
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CRN 254900-07-7  
CMF C12 H14 O4



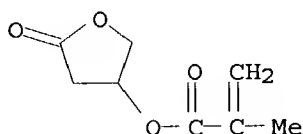
CM 2

CRN 177080-67-0  
CMF C15 H22 O2



CM 3

CRN 130224-95-2  
CMF C8 H10 O4



RE.CNT 2      THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:581558 CAPLUS  
DN 135:160152  
TI Chemically amplified positive resist composition  
IN Nakanishi, Junji; Takata, Yoshiyuki  
PA Sumitomo Chemical Co., Ltd., Japan  
SO Eur. Pat. Appl., 11 pp.  
CODEN: EPXXDW

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1122604	A2	20010808	EP 2001-101672	20010129
	EP 1122604	A3	20030716		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001215704	A2	20010810	JP 2000-21687	20000131
	US 2001016298	A1	20010823	US 2001-770212	20010129
	US 6537726	B2	20030325		
	CN 1312489	A	20010912	CN 2001-102197	20010131
PRAI	JP 2000-21687	A	20000131		

AB A chem. amplified pos. resist compn. comprises a resin which, per se, is insol. or slightly sol. in alkali but becomes sol. in alkali due to an action of acid, and has a polymeric unit derived from 3-hydroxy-1-adamantyl(meth)acrylate and a polymeric unit derived from .beta.-(meth)acryloyloxy-.gamma.-butyrolactone wherein the lactone ring may optionally be substituted by alkyl and a photoacid. The chem. amplified pos. resist compn. is capable of giving a resist film excellent in adhesion to a substrate and excellent in various resist performance characteristics such as dry etching resistance, sensitivity and resolu.

IT 312620-52-3P, .beta.-Methacryloyloxy-.gamma.-Butyrolactone-2-Ethyl-2-adamantyl methacrylate-3-Hydroxy-1-adamantyl methacrylate copolymer  
348631-34-5P, .beta.-Methacryloyloxy-.gamma.-Butyrolactone-3-Hydroxy-1-adamantyl methacrylate-2-methyl-2-adamantyl methacrylate

copolymer

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(Chem. amplified pos. resist compn.)

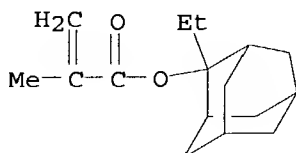
RN 312620-52-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

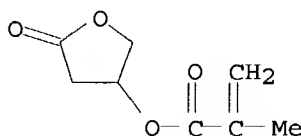
CMF C16 H24 O2



CM 2

CRN 130224-95-2

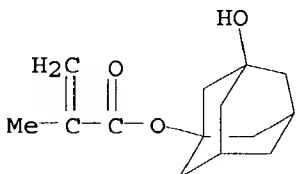
CMF C8 H10 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



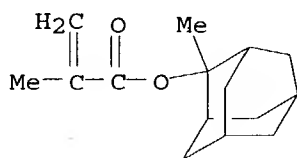
RN 348631-34-5 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester, polymer with 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

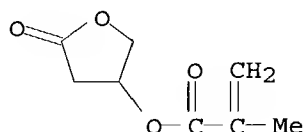
CMF C15 H22 O2



CM 2

CRN 130224-95-2

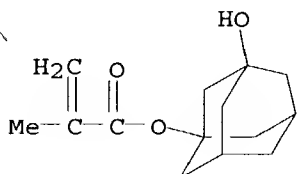
CMF C8 H10 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L8 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:496390 CAPLUS

DN 135:99843

TI Radiation-sensitive polymer compositions with good dry etching resistance for semiconductor fabrication

IN Ishii, Hiroyuki; Doki, Katsuji; Kajita, Toru; Shimokawa, Tsutomu

PA JSR Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001188347	A2	20010710	JP 2000-137757	20000510
PRAI	JP 1999-296028	A	19991018		

AB The compns. comprise (A) acid-dissocg. group-contg. alkali-insol. polymers having CR1[C(:O)OAR2]CH2 and CR6[C(:O)OR7]CH2 (R1, R6 = H, C1-4 alkyl, alkoxy, or hydroxyalkyl; A = single bond, C1-4 alkylene; R2 = R3X1, R4:X2, R5.tplbond.X3; R3-R5 = C4-20 alicyclic group; X1-X3 = O- or N-contg. group; R7 = C4-20 alicyclic group, CR83; R8 = C1-4 alkyl or alicyclic group) and showing alkali. soly. by dissocn. of the acid-dissocg. groups and (B) acid generators. The compns. show good storage stability, high

transparency for radiation, and high resoln.

IT 348631-34-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(radiation-sensitive resists using alicyclic group-contg. acrylic polymers with good dry etching resistance)

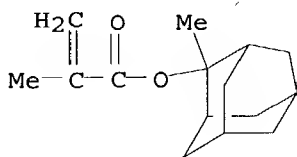
RN 348631-34-5 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester, polymer with 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

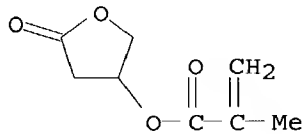
CMF C15 H22 O2



CM 2

CRN 130224-95-2

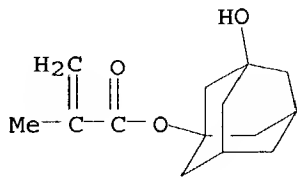
CMF C8 H10 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L8 ANSWER 8 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:214954 CAPLUS

DN 134:259206

TI Resin composition for resist and chemical amplification-type resist composition

IN Fujiwara, Tadayuki; Wakisaka, Yukiya; Tokimitsu, Akira; Murata, Naoshi; Kamon, Yoshihiro; Momose, Akira

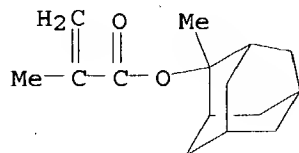


PA Mitsubishi Rayon Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001081139	A2	20010327	JP 2000-211381	20000712
	WO 2002004532	A1	20020117	WO 2001-JP946	20010209
	W: KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	TW 526389	B	20030401	TW 2001-90102992	20010209
	EP 1304340	A1	20030423	EP 2001-902835	20010209
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	US 2003148214	A1	20030807	US 2003-332770	20030113
PRAI	JP 1999-198162	A	19990712		
	JP 2000-211381	A	20000712		
	WO 2001-JP946	W	20010209		
AB	The resin compn., which becomes sol. in aq. alk. soln. by the action of acid, contains .gtoreq.1 monomer unit selected from I (R1-2 = H, alkyl, acid-releasable protective group) and II (R3 = H, alkyl, acid-releasable protective group; n = 0-4). The resist compn. contains the resin and a photo-acid generator. The compn. shows good dry etching resistance and useful for deep UV excimer layer and electron beam lithog.				
IT	331253-10-2P, Di-tert-butyl-2,2'-(oxydimethylene)diacrylate-.beta.-methacryloyloxy-.gamma.-butyrolactone-2-methacryloyloxy-2-methyladamantane copolymer				
	RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (chem. amplification resist with good dry etching resistance)				
RN	331253-10-2 CAPLUS				
CN	2-Propenoic acid, 2,2'-[oxybis(methylene)]bis-, bis(1,1-dimethylethyl) ester, polymer with 2-methyltricyclo[3.3.1.1 <sup>3,7</sup> ]dec-2-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)				

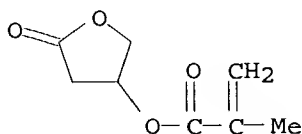
CM 1

CRN 177080-67-0  
 CMF C15 H22 O2



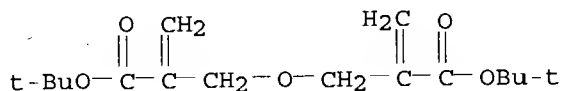
CM 2

CRN 130224-95-2  
 CMF C8 H10 O4



CM 3

CRN 129743-64-2  
CMF C16 H26 O5



L8 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:62635 CAPLUS

DN 134:123586

TI Resist resin for chemically amplified resist resin composition suitable for excimer and electron beam lithography and method for pattern formation using same

IN Fujiwara, Tadayuki; Wakisaka, Koya

PA Mitsubishi Rayon Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

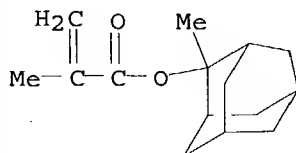
LA Japanese

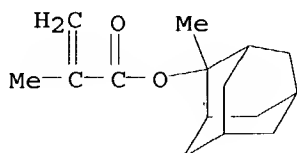
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001022076	A2	20010126	JP 1999-198165	19990712
PRAI	JP 1999-198165		19990712		
AB	The title resin becomes sol. in an alkali upon reacting with an acid and contains repeating unit I ( R1 = H, F, Cl, alkyl, silyl; R2-4 = F, Cl, alkyl, alkoxy; n = 0, 1). The resin provides the improved dry-etching resistance.				
IT	321378-94-3P, 2-Methyl-2-adamantylmethacrylate-.beta.-methacryloxy-.gamma.-butyrolactone-methacryloxypropyltrimethoxysilane copolymer				
RL	SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(resist resin for chem. amplified resist compn. and method for pattern formation using same)				
RN	321378-94-3 CAPLUS				
CN	2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1 <sup>3,7</sup> ]dec-2-yl ester, polymer with tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate and 3-(trimethoxysilyl)propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)				

CM 1

CRN 177080-67-0  
CMF C15 H22 O2

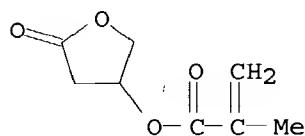




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CRN 130224-95-2

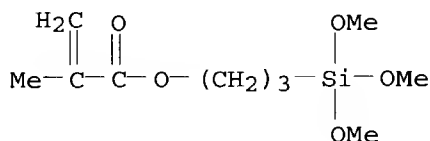
CMF C8 H10 O4



CM 3

CRN 2530-85-0

CMF C10 H20 O5 Si



L8 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:62634 CAPLUS

DN 134:123585

TI Resist resin for chemically amplified resist resin composition suitable for excimer and electron beam lithography and method for pattern formation using same

IN Fujiwara, Tadayuki; Wakisaka, Yukiya; Murata, Naoshi

PA Mitsubishi Rayon Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001022075	A2	20010126	JP 1999-198164	19990712
PRAI	JP 1999-198164		19990712		

AB The title resin becomes sol. in an alkali upon reacting with an acid and has repeating unit I-III ( R = H, alkyl; n = 1-10 integer, m = 0-3 integer). The resin provides the improved dry-etching resistance.

IT 321318-74-5P, 2-Methyl-2-adamantylmethacrylate-.beta.-methacryloyloxy-.gamma.-butyrolactone-1,3-epoxy-2-methacryloyloxymethyl-2-methylpropane copolymer

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(resist resin for chem. amplified resist compn.)

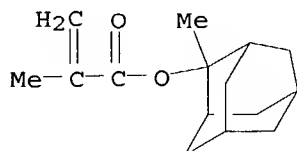
RN 321318-74-5 CAPLUS

CN 2-Propenoic acid, 2-methyl-, (3-methyl-3-oxetanyl)methyl ester, polymer with 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

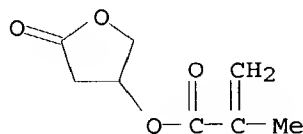
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CRN 130224-95-2

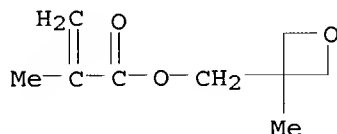
CMF C8 H10 O4



CM 3

CRN 86273-42-9

CMF C9 H14 O3



L8 ANSWER 11 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:62633 CAPLUS

DN 134:123584

TI Resist resin for chemically amplified resist composition and method for pattern formation using same

IN Fujiwara, Tadayuki; Wakisaka, Yukiya; Murata, Naoshi

PA Mitsubishi Rayon Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

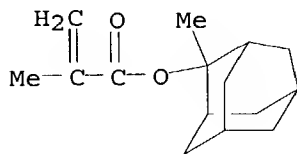
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001022074	A2	20010126	JP 1999-198163	19990712
PRAI	JP 1999-198163		19990712		
AB	The resin is prepd. from at least one of monomers of acrylonitrile, vinyl				

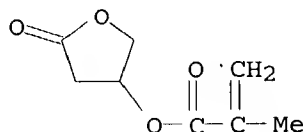
IT 321309-69-7P, 2-Methyl-2-adamantylmethacrylate-.beta.-  
Methacryloyloxy-.gamma.-butyrolactone-acrylonitrile copolymer  
321309-70-0P, 2-Methyl-2-adamantylmethacrylate-.beta.-  
Methacryloyloxy-.gamma.-butyrolactone-N-methylolmethacrylamide copolymer  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(resist resin for chem. amplified resist compn.)

2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with 2-propenenitrile and tetrahydro-5-oxo-3-furanyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CMF C15 H22 O2



CMF C8 H10 O4

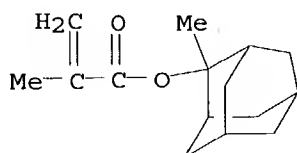


CMF C3 H3 N



2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester,  
polymer with N-(hydroxymethyl)-2-methyl-2-propenamide and  
tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

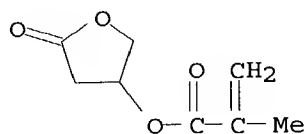
CMF C15 H22 O2



CM 2

CRN 130224-95-2

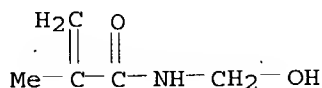
CMF C8 H10 O4



CM 3

CRN 923-02-4

CMF C5 H9 N O2



L8 ANSWER 12 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2000:877012 CAPLUS  
 DN 134:63889  
 TI Far-UV positive-working photoresist composition  
 IN Sato, Kenichiro; Kodama, Kunihiro; Aogo, Toshiaki  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 45 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000347409	A2	20001215	JP 1999-158695	19990604
	US 6479211	B1	20021112	US 2000-577884	20000525
PRAI	JP 1999-146774	A	19990526		
	JP 1999-146775	A	19990526		
	JP 1999-150215	A	19990528		
	JP 1999-152860	A	19990531		
	JP 1999-152861	A	19990531		
	JP 1999-152862	A	19990531		
	JP 1999-158693	A	19990604		
	JP 1999-158695	A	19990604		

AB The far-UV pos.-working photoresist compn. comprises a photoacid represented by I or II (R1-5 = H, alkyl, etc.; p, q, n1 = 1-5; m, n = 0-5; X = counter ion) and a resin which has repeating unit of III (Rb1-b4 = substituent) and increases its soly. in an alk. developer upon reaction with an acid. This photoresist compn. was particularly suited for .ltoreq.220.nu.m exposure.

IT 312620-52-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(far-UV pos.-working photoresist compn. from)

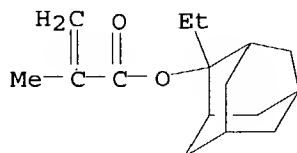
RN 312620-52-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

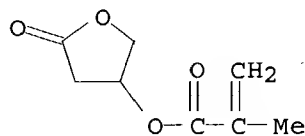
CMF C16 H24 O2



CM 2

CRN 130224-95-2

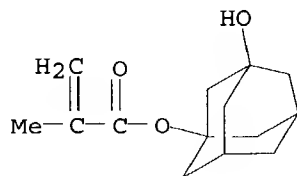
CMF C8 H10 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L8 ANSWER 13 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:877011 CAPLUS

DN 134:63888

TI Positive-working chemical amplification photoresist composition for far-ultraviolet ray exposure

IN Sato, Kenichiro; Kodama, Kunihiko; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 52 pp.

CODEN: JKXXAF

DT Patent  
LA Japanese  
FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000347408	A2	20001215	JP 1999-158693	19990604
	US 6479211	B1	20021112	US 2000-577884	20000525
PRAI	JP 1999-146774	A	19990526		
	JP 1999-146775	A	19990526		
	JP 1999-150215	A	19990528		
	JP 1999-152860	A	19990531		
	JP 1999-152861	A	19990531		
	JP 1999-152862	A	19990531		
	JP 1999-158693	A	19990604		
	JP 1999-158695	A	19990604		

AB A pos.-working photoresist contg. (A) a compd. generating an acid upon irradiation with active ray or radioactive ray, (B) a resin having a repeating unit (I; R1 = H, halo, C1-4 linear or branched alkyl; R2 - R4 = H or OH, provided that at least one of R2 - R4 is OH) and decomp. upon reaction with an acid to increase the soly. in an alkali developer, and (C) a compd. generating sulfonic acid is described. This photoresist decreases the development of defects or the formation of scums when using an exposure source of 150 nm wavelength, in particular .ltoreq.220 nm, and improves microlithog. (photolithog.) process of LSI and microchips using far-UV ray such as excimer laser beam.

IT 312620-52-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos.-working chem. amplification photoresist compn. for far-UV ray exposure)

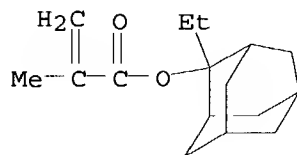
RN 312620-52-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

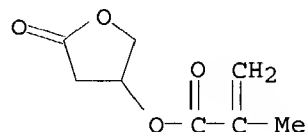
CMF C16 H24 O2



CM 2

CRN 130224-95-2

CMF C8 H10 O4

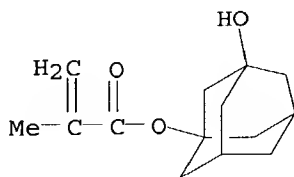




CM 3

CRN 115372-36-6

CMF C14 H20 O3



L8 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:863764 CAPLUS  
DN 134:49207  
TI Argon fluoride excimer laser-sensitive positive-working photoresist composition  
IN Sato, Kenichiro; Nakao, Hajime; Aogo, Toshiaki  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 46 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000338681	A2	20001208	JP 1999-152862	19990531
	US 6479211	B1	20021112	US 2000-577884	20000525
PRAI	JP 1999-146774	A	19990526		
	JP 1999-146775	A	19990526		
	JP 1999-150215	A	19990528		
	JP 1999-152860	A	19990531		
	JP 1999-152861	A	19990531		
	JP 1999-152862	A	19990531		
	JP 1999-158693	A	19990604		
	JP 1999-158695	A	19990604		

AB The title compn. contains an acid-generating compd., a resin sensitive to an acid to become sol. in an alkali, and a solvent. The resin has a specific repeating unit contg. an adamantane structure. The solvent contains 60-90 % of Et lactate, propylene glycol monomethyl ether acetate, propylene glycol monomethyl ether propionate, Me 3-methoxypropionate, Et 3-methoxypropionate, or 2-heptanone. The solvent also contains 10-40 % of a solvent having .ltoreq.1 cPs at 20 .degree.C. The compn. provides the high sensitivity, the high resolu., the excellent dry-etching resistance, the strong contact to the substrate.

IT 312620-52-3P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(resin in argon fluoride excimer laser-sensitive pos.-working photoresist compn.)

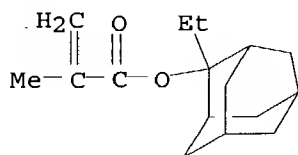
RN 312620-52-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1.3,7]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1.3,7]dec-1-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

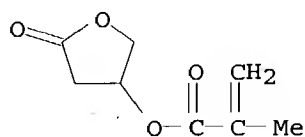
CMF C16 H24 O2



CM 2

CRN 130224-95-2

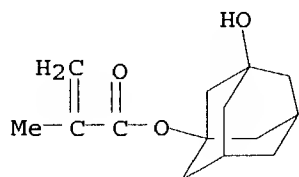
CMF C8 H10 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L8 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:863763 CAPLUS  
DN 134:49206  
TI Excimer laser-sensitive positive-working photoresist composition  
IN Sato, Kenichiro; Kodama, Kunihiro; Aogo, Toshiaki  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 72 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000338680	A2	20001208	JP 1999-152861	19990531
	US 6479211	B1	20021112	US 2000-577884	20000525
PRAI	JP 1999-146774	A	19990526		
	JP 1999-146775	A	19990526		
	JP 1999-150215	A	19990528		
	JP 1999-152860	A	19990531		
	JP 1999-152861	A	19990531		
	JP 1999-152862	A	19990531		
	JP 1999-158693	A	19990604		

JP 1999-158695 A 19990604

AB The title compn. contains an acid-generating compd., a resin sensitive to an acid to become sol. in an alkali, and a polyester or a naphthalene ester. The resin has a specific repeating unit contg. an adamantane structure. The compn. provides the high sensitivity, resoln., dry-etching resistance, contact to the substrate.

IT 312620-52-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(resin in excimer laser-sensitive pos.-working photoresist compn.)

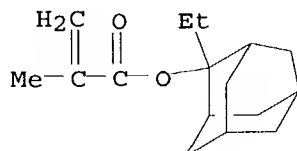
RN 312620-52-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

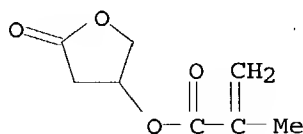
CMF C16 H24 O2



CM 2

CRN 130224-95-2

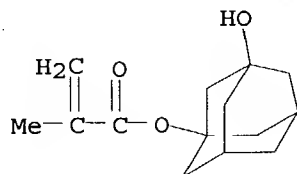
CMF C8 H10 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L8 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:863762 CAPLUS

DN 134:49205

TI Argon fluoride excimer laser-sensitive positive-working photoresist composition  
 IN Sato, Kenichiro; Nakao, Hajime; Aogo, Toshiaki  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 47 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000338679	A2	20001208	JP 1999-152860	19990531
	US 6479211	B1	20021112	US 2000-577884	20000525
PRAI	JP 1999-146774	A	19990526		
	JP 1999-146775	A	19990526		
	JP 1999-150215	A	19990528		
	JP 1999-152860	A	19990531		
	JP 1999-152861	A	19990531		
	JP 1999-152862	A	19990531		
	JP 1999-158693	A	19990604		
	JP 1999-158695	A	19990604		

AB The title compn. contains an acid-generating compd., a resin sensitive to an acid to become sol. in an alkali, a solvent consisting of Et lactate and Et 3-ethoxypropionate. The resin has a specific repeating unit contg. an adamantane structure. The compn. provides the high sensitivity, resolu., the high dry-etching resistance, and the strong contact to the substrate.

IT 312620-52-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (resin in excimer laser-sensitive pos.-working photoresist compn.)

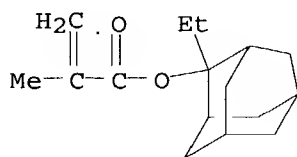
RN 312620-52-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

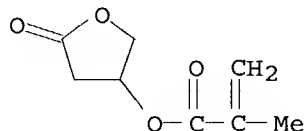
CMF C16 H24 O2



CM 2

CRN 130224-95-2

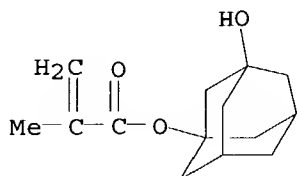
CMF C8 H10 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L8 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:863759 CAPLUS

DN 134:49202

TI Argon fluoride excimer laser-sensitive positive-working photoresist composition

IN Sato, Kenichiro; Nakao, Hajime; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 47 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000338676	A2	20001208	JP 1999-150215	19990528
	US 6479211	B1	20021112	US 2000-577884	20000525
PRAI	JP 1999-146774	A	19990526		
	JP 1999-146775	A	19990526		
	JP 1999-150215	A	19990528		
	JP 1999-152860	A	19990531		
	JP 1999-152861	A	19990531		
	JP 1999-152862	A	19990531		
	JP 1999-158693	A	19990604		
	JP 1999-158695	A	19990604		

AB The title compn. contains an acid-generating compd., a resin sensitive to an acid to become sol. in an alkali, a fluorinated surfactant and/or a silicone surfactant. The resin has a specific repeating unit contg. an adamantane structure. The compn. provides a resist of the high sensitivity, the high resolu., the strong dry-etching resistance, and the excellent contact to the substrate.

IT 312620-52-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(resin in excimer laser-sensitive pos.-working photoresist compn.)

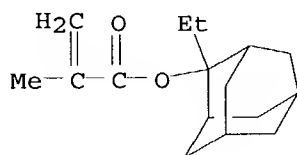
RN 312620-52-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

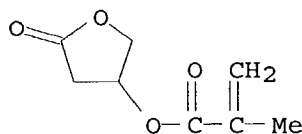
CMF C16 H24 O2



CM 2

CRN 130224-95-2

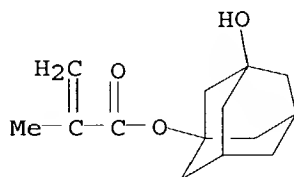
CMF C8 H10 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



L8 ANSWER 18 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:863757 CAPLUS

DN 134:49200

TI Far-UV positive-working photoresist composition

IN Sato, Kenichiro; Kodama, Kunihiro; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 38 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000338674	A2	20001208	JP 1999-146775	19990526
	US 6479211	B1	20021112	US 2000-577884	20000525
PRAI	JP 1999-146774	A	19990526		
	JP 1999-146775	A	19990526		
	JP 1999-150215	A	19990528		
	JP 1999-152860	A	19990531		
	JP 1999-152861	A	19990531		
	JP 1999-152862	A	19990531		
	JP 1999-158693	A	19990604		
	JP 1999-158695	A	19990604		

AB The title photoresist compn. comprises a photoacid and a resin which, increasing alk. soly. upon the reaction with an acid, contains a repating

unit having .gtoreq.1 protective group selected from I, CR12R13R14, -CHR16(OR15), CR19R21R17C=CR18R20, -R22R25CCHR23C(:O)R24, and II (R11 = Me, Et, etc.; R12-16 = C1-4 alkyl, aliph.; R15,16 = aliph.; R17-21 = H, C1-4 alkyl, aliph.; R22-25 = C1-4 alkyl, aliph.) and III (R1 = H, halo, C1-4 alkyl; R2-4 = H, OH).

IT 312620-52-3P

RL: POF (Polymer in formulation); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (far-UV pos.-working photoresist compn. from)

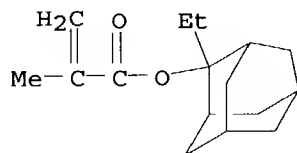
RN 312620-52-3 CAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1<sup>3,7</sup>]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

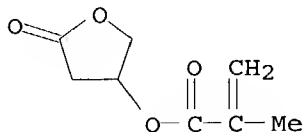
CMF C16 H24 O2



CM 2

CRN 130224-95-2

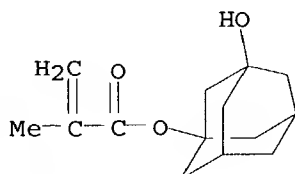
CMF C8 H10 O4



CM 3

CRN 115372-36-6

CMF C14 H20 O3



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